

ORCADELLA OPERCULATA Wing., A NEW MYXOMYCETE.

BY HAROLD WINGATE.

This curious minute plant presents anatomical characteristics which lead me to propose a new family of the Myxomycetes, and which, in Dr. Rostafinski's classification, would come under Order IV, *Anemeae*, and after Family 13, *Clathroptychiaceae*.

ORCADELLACEAE, fam. nov.

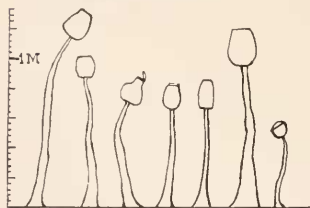
Sporangia without columella or capillitium, and the upper part of the coarse sporangium wall replaced by a delicate membrane having a defined outline.

ORCADELLA, gen. nov.

Sporangia with coarse stipes; sporangium wall likewise coarse, but at the top of the sporangium replaced by a delicate membrane which forms a more or less flattened deciduous lid.

Orcadella operculata Wing., sp. nov.

Sporangia stipitate, without columella or capillitium, very variable in form, barrel-shaped, urn-shaped, vase-shaped, jar-shaped, ovoid or nearly globose, or all varieties appearing in one small group; running from M. 0.05 to M. 0.25 in diameter by M. 0.1 to M. 0.3 in length. Stipe slightly tapering, erect or bent, blackish, rough



and coarse from deposits of plasmodic refuse; very variable in height, from M. 0.375 to M. 1.25. Sporangium wall likewise coarse, blackish, containing deposits of plasmodic refuse, but at the top part of the sporangium replaced by a delicate, yellowish, iridescent, lustrous or vernicose membrane which forms a flat or slightly convex, circular deciduous lid, sometimes smooth, sometimes reticulately wrinkled. Mass of spores yellowish. Individual spores almost colorless, globose or irregularly roundish, smooth 8–11 mill. in diameter.

On the trunks of living red-oak trees (*Quercus rubra*).

Fairmount Park and Chestnut Hill, Philada., and also Maine (Harvey). Type in Herb. Acad. Nat. Sci. Philada.

This plant has been very common this year in Fairmount Park on living red-oak trees, owing to the unusual amount of rain. It gener-

ally grows in the fissures of the bark, where it is extremely difficult to detect except in the sunlight; but having found it, when the membranaceous lid has a golden or coppery metallic luster, the plant may readily be determined in the sunlight in the field with a hand-lens, minute though the sporangium may be. This lid generally dehisces and may occasionally be seen hanging to one side of the sporangium by a mere point; rarely it bursts in the center leaving a lacerated fringe around the edge of the cup. When the plants are found quite old and weather-beaten the cup frequently has a regular, well-defined circular edge, but oftener it is collapsed. The sporangium wall is often quite thin at the base, sometimes longitudinally wrinkled, and under the microscope appears to be covered with minute granulations, regularly distributed, not unlike the manner of warting of the spores of many species. The middle portion has the deposits of plasmodic refuse. The accompanying cut gives the outlines of the various forms of sporangium and stipe. The plant has frequently been found associated with *Orthotrichia microcephala* Wing., and enough of each was gathered to send to Mr. J. B. Ellis for his N. A. F. Consequently an occasional sporangium of *Orcadella operculata* may be found on the bark of the specimen of *Orthotrichia microcephala* and vice versa.

This family seems to bridge, to a certain extent, the gap between Rostafinski's orders *Anemeae* and *Heterodermeae*, as we here have a stage between the uniform wall of *Licea*, *Tubulina*, etc., and the lacerate upper wall of some species of *Cribraria* where the receptacle is strongly developed and covered with minute granulations. The episore seems to be absolutely without thickenings even under very high magnification.